

Amendment to Claims:

1-28. (Canceled)

29. (Original) A system of joined structures, comprising:

a first structure having a first aperture, the first aperture having a first interior surface and a first minimum radial extent;

a second structure having a second aperture, the second aperture having a second interior surface and a second minimum radial extent at least approximately the same as the first minimum radial extent; and

a coupling device having a first section extending through the first aperture and a second section extending through the second aperture, but not extending into the first aperture, the first section of the coupling device having at least one of a hardness, toughness, and density greater than that of the second section of the coupling device, and wherein a portion of the second section has a greater radial extent than the first section.

30. (Original) The system of claim 29 wherein the portion of the second section applies a first radial force to the second interior surface and the first section applies no radial force to the first interior surface or the first section applies a second radial force to the first interior surface, the second radial force being less than the first radial force.

31. (Original) The system of claim 29 wherein the first section is not in contact with the first interior surface.

32. (Original) The system of claim 29 wherein the coupling device includes a rivet.

33. (Original) The system of claim 29 wherein the coupling device includes a metallic material.

34. (Original) The system of claim 29 wherein the first structure includes a composite material and the second structure includes a metallic material.

35. (Original) The system of claim 29 wherein the first section of the coupling device includes a head and a shank portion, and wherein the first aperture includes a countersunk portion for receiving the head.

36. (Original) The system of claim 29 wherein the first section of the coupling device includes a head and a shank portion, and wherein the head has a radial extent greater than a radial extent of at least a portion of the first aperture.

37. (Original) The system of claim 29 wherein the second section of the coupling device includes a shank portion and a tail, the tail extending out of the second aperture, the tail having a radial extent greater than a radial extent of at least a portion of the second aperture.

38. (Original) The system of claim 29 wherein:
the first section of the coupling device includes a head and a shank portion, the head having a radial extent greater than a radial extent of at least a portion of the first aperture; and wherein
the second section of the coupling device includes a shank portion and a tail, the tail extending out of the second aperture, the tail having a greater radial extent than a radial extent of at least a portion of the second aperture.

39. (Original) The system of claim 29 wherein:
the first section of the coupling device includes a head and a shank portion, the head having a radial extent greater than a radial extent of at least a portion of the first aperture; and wherein
the second section of the coupling device includes a shank portion and a tail, the tail extending out of the second aperture, the tail having a greater radial extent than a radial extent of at least a portion of the second aperture; and wherein
the first and second structures are clamped together by the head and the tail.
40. (Original) The system of claim 29, further comprising a sealant proximate to the coupling device.
41. (Original) The system of claim 29, further comprising a vehicle, and wherein the coupling device, the first structure, and the second structure are installed in the vehicle.
42. (Original) A system of joined structures, comprising:
a first structure having a first aperture, the first aperture having a first interior surface and a first minimum radial extent;
a second structure having a second aperture, the second aperture having a second interior surface and a second minimum radial extent at least approximately the same as the first minimum radial extent; and
a coupling device having a first section extending through the first aperture and a second section extending through the second aperture, but not extending into the first aperture, the first section of the coupling device having at least one of a hardness, toughness, and density greater than that of the second section of the coupling device, and wherein a portion of the second section applies a first radial force to the second interior surface and the first section applies no radial force to the first interior surface or the first section applies a second lesser radial force to the first interior surface.

43. (Original) The system of claim 42 wherein the portion of the second section has a greater radial extent than the first section.

44. (Original) The system of claim 42 wherein the first structure includes a composite material and the second structure includes a metallic material.

45. (Original) An aircraft, comprising:

a first structure having a first aperture, the first aperture having a first interior surface;

a second structure having a second aperture, the second aperture having a second interior surface, the first aperture having a minimum radial extent at least approximately the same as a minimum radial extent of the second aperture; and

a coupling device having a first section extending through the first aperture and a second section extending through the second aperture, but not extending into the first aperture, the first section of the coupling device having at least one of a hardness, toughness, and density greater than that of the second section of the coupling device, and wherein a portion of the second section has a greater radial extent than the first section.

46. (Original) The system of claim 45 wherein the portion of the second section applies a first radial force to the second interior surface and the first section applies no radial force to the first interior surface or the first section applies a second lesser radial force to the first interior surface.

47. (Original) An aircraft, comprising:

a first structure including a composite material, the first structure having a first aperture, the first aperture having a first interior surface and a first minimum radial extent;

a second structure including a metallic material, the second structure having a second aperture, the second aperture having a second interior surface and a second minimum radial extent at least approximately the same as the first minimum radial extent; and

a coupling device having a first section extending through the first aperture and a second section extending through the second aperture, but not extending into the first aperture, the first section of the coupling device having at least one of a hardness, toughness, and density greater than that of the second section of the coupling device, wherein:

a portion of the second section has a greater radial extent than the first section so that the portion of the second section applies a first radial force to the second interior surface and the first section applies no radial force to the first interior surface or the first section applies a second lesser radial force to the first interior surface; and wherein

the first section of the coupling device includes a head and a shank portion, the head having a radial extent greater than a radial extent of at least a portion of the first aperture; and wherein

the second section of the coupling device includes a shank portion and a tail, the tail extending out of the second aperture, the tail having a greater radial extent than a radial extent of at least a portion of the second aperture.

48. (Original) The system of claim 47, further comprising a sealant proximate to the coupling device.